

### **REMARKS**

Entry and consideration of the remarks in the amendment mailed May 19, 2003, is respectfully requested. The claim amendments from said amendment are repeated herein, as well as further amendments to the claims.

The amendments to the claims, particularly the addition of the word "coated" in various places, including those claims that recite proportions of ingredients, is supported in the original specification at page 4, lines 12-26, and in the claims.

The claims in the application are claims 36, 39, 41-61, 63-78, 81-93 and 95-100. Claims 69, 70 and 74-88 have been withdrawn from consideration pursuant to an election of species requirement.

Claims 36, 39, 41-61, 63-68, 71-73, 81-93 and 95-100 have been rejected under 35 USC § 103 as being unpatentable over Rheume et al., US 5,560,909 (Rheume) taken together with three other references. On this record there is some confusion as to the exact identity of those three references. It is believed that the examiner's intention was to rely on Bohm et al., US 4,948,586 (Bohm), Miller et al, US 5,662,897 (Miller) and Fakhruddin, EP 0 697 170. Arguments have been presented by applicants to demonstrate the erroneous nature of the examiner's rejections, particularly in the last amendment after final, which should now be entered, and the amendment prior to that submitted on June 18, 2002. To avoid unduly burdening the record, those arguments will not here be repeated in their entirety, but the examiner is respectfully requested to review them. The points which applicants intend to emphasize and those which are considered to have been incompletely responded to are discussed below.

The novel and unobvious feature of applicants' claimed invention, that which gives it its unique properties, is the use of a coating polymer which has both ester groups and free carboxylic acid groups. The process feature responsible for that structure is the addition of a partially solubilizing amount of base, but explicitly an insufficient amount to fully solubilize the copolymer. Miller and Fakhruddin, on the other

hand, both require total solubilization of any coating polymer disclosed.

In the Bohm process, dissolution of the relevant polymer is disclosed as being required, whereas in the present process the pH of the mixture is held below the solubilization of the polymer.

The examiner has relied on Rheume to somehow supply the missing elements of the other references to reconstruct applicants' process. However, in the Rheume process it is required that the pH be above the solubilization pH of the polymer. Subsequently the polymer is precipitated out of solution by modification of the functional groups of the charged polymer. There is nothing to indicate that the precipitated-out polymer could possibly correspond to a "partially solubilized" polymer in applicants' process. Quite clearly the precursor is a completely solubilized polymer. Thus, the disclosure of Rheume is incapable of providing the suggestion and motivation to modify the teachings of the other references to result in applicants' claimed invention.

Example 6 in the present specification compares the invention of Fakhruddin and Miller with the present claimed invention. The results demonstrate that the composition prepared according to the present invention has significantly greater residual activity than those of the reference, a result which could not have been predicted from any disclosure of Rheume, and thus must be considered adequate evidence to outweigh any possible evidence of obviousness found in the references. *In re Johnson*, 747 F.2d 1456, 223 USPQ 1260 (Fed. Cir. 1984); *In re Piasecki*, 745 F.2d 1468, 1472-73, 223 USPQ 785, 788 (Fed. Cir. 1984); and *In re Rinehart*, 531 F.2d 1048, 1054, 189 USPQ 143, 147 (CCPA 1976).

The examiner is aware of the fact that unobviousness results in the original specification are to be considered. *In re Soni*, 54 F.3d 746, 750, 34 USPQ2d 1684, 1687 (Fed. Cir. 1995); *In re Margolis*, 785 F.2d 1029, 1031, 228 USPQ 940, 941-42 (Fed. Cir. 1986).

In light of the foregoing amendments and remarks it is believed that the

examiner's rejections have been obviated, and allowance of this application is respectfully requested.

Also in view of the foregoing amendments and a telephone interview with Examiner Levy, it is requested that, if the application is not forthwith allowed, a non-final action be issued so that a further interview can be held.

**A check to cover the second further extension fee of \$300.00 is attached.**

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW AMENDMENTS**

Cancel claim 40.

Amend claims 36, 85-91 and 95-100 as follows:

36. (currently amended) A process ~~comprising~~ for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of

(a) preparing an aqueous mixture containing a said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;

wherein the polymer

(1) contains ester groups and free carboxylic acid groups,

(2) is partially solubilized due to the action of the base, and

(3) has solubilization pH greater than about pH 5.5;

wherein the amount of base added is well below the amount required to

fully solubilize the copolymer such that no more than 10% of the free

carboxylic acid groups of the copolymer are converted to salts;

wherein the mixture's pH is less than the polymer's solubilization pH; and

(b) drying the mixture to produce a coated pesticidal matrix.

85. (currently amended) A process as described in claim 36, wherein the coated pesticidal matrix has a particle size of less than about 20  $\mu\text{m}$ .
86. (currently amended) A process as described in claim 58, wherein the coated pesticidal matrix has a particle size of from about 2  $\mu\text{m}$  to 10  $\mu\text{m}$ .
87. (currently amended ) A process as described in claim 36, wherein the coated matrix comprises, on a percentage-weight-basis of the matrix, from about 1% to about 50% of the pesticidal agent, from about 5% to about 50% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 30% of the ultraviolet protector, from about 0% to about 75% of the activity enhancer, and from about 0% to about 15% of the glidant.
88. (currently amended) A coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, comprising consisting essentially of on a percentage-weight-basis of the coated matrix, from about 1% to about 50% of said a pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15% of a glidant; wherein the polymer contains ester groups and free carboxylic acid groups, is partially solubilized due to the action of a base, wherein the amount of base added is well below the amount required to fully

solubilize the copolymer, such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts, and wherein the polymer has a solubilization pH greater than about pH 5.5.

89. (currently amended) A coated pesticidal matrix as described in claim 88, wherein the coated matrix comprises, on a percentage-weight-basis of the coated matrix, from about 5% to about 35% of the pesticidal agent, from about 10% to about 45% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 20% of the ultraviolet protector, from about 0% to about 45% of the activity enhancer, and from about 0% to about 10% of the glidant.
90. (currently amended) A coated pesticidal matrix as described in claim 88, wherein
- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;
  - (b) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;
  - (c) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;
  - (d) the activity enhancer is a stilbene compound; and
  - (e) the glidant is selected from the group consisting of talc, magnesium

stearate, calcium stearate, calcium sulfate, and mixtures thereof.

91. (currently amended) A coated pesticidal matrix as described in claim 90, wherein

- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;
- (b) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
- (c) the stilbene compound is selected from the group consisting of Blacophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

95. (currently amended) A coated pesticidal matrix as described in claim 93, wherein the insecticide is a biological insecticide selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.

96. (currently amended) A coated pesticidal matrix as described in claim 95, wherein

- (a) the biological insecticide is selected from the group consisting of
  - (1) *Melolontha melolontha* EPV, *Amsacata moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca*

*gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;

- (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof;
- (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photobacterium luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and



wherein the mixture's pH is less than the polymer's solubilization; and

(b) drying the mixture to produce a coated pesticidal matrix.

97. (currently amended) A coated pesticidal matrix produced by a process as described in claim 36.
98. (currently amended) A process for improving the residual control of a pest comprising applying to the locus of the pest a pesticidally-effective amount of a coated pesticidal matrix as described in claim 97.
99. (currently amended) A process ~~comprising~~ for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of
- (a) preparing an aqueous mixture containing a said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;
- wherein
- (A) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer

having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;

(B) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1, 000 to 10,000;

(C) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof;

(D) the pesticidal agent is a biological insecticide selected from the group consisting of

(1) *Melolontha melolontha* EPV, *Amsacta moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;

(2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AalT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;

- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof,
- (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photorhabdus luminescens*, *Xeorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and wherein the mixture's pH is less than the polymer's solubilization; and

(b) drying the mixture to produce a coated pesticidal matrix.

100. (currently added) A coated pesticidal matrix prepared according to the process of claim 99, comprising, on a percentage-by-weight basis of the coated pesticidal matrix, from about 1% to about 50% of a pesticidal agent, from about 5% to

about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15 % of a glidant.

**COMPLETE LISTING OF ALL CLAIMS IN THE APPLICATION**

Claims 1-35 (canceled).

36. (currently amended) A process for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of

(a) preparing an aqueous mixture containing said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;

wherein the polymer

(1) contains ester groups and free carboxylic acid groups,

(2) is partially solubilized due to the action of the base, and

(3) has solubilization pH greater than about pH 5.5;

wherein the amount of base added is well below the amount required to

fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts;


wherein the mixture's pH is less than the polymer's solubilization pH; and

(b) drying the mixture to produce a coated pesticidal matrix.

37-38 (canceled).

39. (previously amended) A process as described in claim 36 wherein the polymer is

soluble above about pH 7.

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40. (canceled).
41. (previously amended) A process as described in claim 36, wherein the base is a hydroxide compound.
42. (previously amended) A process as described in claim 41, wherein the compound is selected from the group consisting of ammonium hydroxide, an alkali metal hydroxide, an alkaline earth metal hydroxide, and mixtures thereof.
43. (previously amended) A process as described in claim 42, wherein the compound is ammonium hydroxide.
44. (previously amended) A process as described in claim 36, wherein the mixture does not contain the plasticizer, the ultraviolet protector, the activity enhancer, and the glidant.
45. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer.
46. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector.
47. (previously amended) A process as described in claim 36, wherein the mixture contains the activity enhancer.
48. (previously amended) A process as described in claim 36, wherein the mixture contains the glidant.
49. (previously amended) A process as described in claim 36, wherein the mixture

contains the plasticizer and the ultraviolet protector.

50. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer and the activity enhancer.

51. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer and the glidant.

52. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the activity enhancer.

53. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector and the glidant.

54. (previously amended) A process as described in claim 36, wherein the mixture contains the activity enhancer and the glidant.

55. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, and the activity enhancer.


56. (previously amended) A process as described in claim 36, wherein the mixture contains the ultraviolet protector, the activity enhancer, and the glidant.

57. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the activity enhancer, and the glidant.

58. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, and the glidant.


59. (previously amended) A process as described in claim 36, wherein the mixture contains the plasticizer, the ultraviolet protector, the activity enhancer, and the


glidant.

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60. (previously amended) A process as described in claim 36, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematocide, a fungicide, a herbicide, and mixtures thereof.
61. (previously amended) A process as described in claim 60, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.
62. (canceled).
63. (previously amended) A process as described in claim 63, wherein the biological insecticide is a naturally-occurring or a genetically-modified variety of an insect biological control agent.
64. (previously amended) A process as described in claim 63, wherein the biological insecticide is a naturally-occurring or a genetically-modified variety of an insect biological control agent.
65. (previously amended) A process as described in claim 64, wherein the insect biological control agent is selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.
66. (previously amended) A process as described in claim 65, wherein the insect biological control agent is a viral pathogen selected from the group consisting of a DNA virus, a RNA virus, an unclassified insect virus, and mixtures thereof.
67. (previously amended) A process as described in claim 66, wherein the viral



pathogen is a DNA virus selected from the group consisting of a double stranded enveloped DNA virus, a double stranded nonenveloped DNA virus, a single stranded DNA virus, and mixtures thereof.

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68. (previously amended) A process as described in claim 67, wherein the DNA virus is a double stranded enveloped DNA virus selected from the group consisting of *Entomopoxvirinae* and *Eubaculovirinae*.
69. (original) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Entomopoxvirinae*.
70. (original) A process as described in claim 69, wherein the double stranded enveloped DNA virus *Entomopoxvirinae* is an entomopox virus (EPV) selected from the group consisting of *Melolontha melolontha* EPV, *Amsacta moorei* EPV, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof.
71. (previously amended) A process as described in claim 68, wherein the double stranded enveloped DNA virus is *Eubaculovirinae*.
72. (previously amended) A process as described in claim 71, wherein the double stranded enveloped DNA virus *Eubaculovirinae* is selected from the group consisting of
- (1) a nuclear polyhedrosis virus (NPV) of *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Helicoverpa zea*

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- NPV, *Rachiplusia* ou NPV, an *Autographa californica* NPV selected from the group consisting of V8v EGTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8, AcMNPV Px1, and mixtures thereof; and
- (2) a granulosis virus (GV) of *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof.


73. (original) A process as described in claim 67, wherein the DNA virus is a double stranded nonenveloped DNA virus.
74. (original) A process as described in claim 67, wherein DNA virus is a single stranded nonenveloped DNA virus.
75. (original) A process as described in claim 66, wherein the viral pathogen is a RNA virus selected from the group consisting of a double stranded enveloped RNA virus, a double stranded nonenveloped RNA virus, a single stranded RNA virus, and mixtures thereof.
76. (original) A process as described in claim 75, wherein the RNA virus is a double stranded enveloped RNA virus selected from the group consisting of *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof.
77. (original) A process as described in claim 75, wherein the RNA virus is a double stranded nonenveloped RNA virus selected from the group consisting of *Reoviridae*, *Birnaviridae*, and mixtures thereof.
78. (original) A process as described in claim 75, wherein the RNA virus is a single

stranded nonenveloped RNA virus selected from the group consisting of

*Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof ,


79-80 (canceled).

81. (previously amended) A process as described in claim 36, wherein

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- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;
  - (b) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;
  - (c) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;
  - (d) the activity enhancer is a stilbene compound and;
  - (e) the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

82. (original) A process as described in claim 36, wherein


- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a



ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof ;

- (b) The plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
  - (c) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.
83. (previously amended) A process as described in claim 36, wherein the polymer is a methyl methacrylate/methacrylic acid copolymer.
84. (previously amended) A process as described in claim 36, wherein the mixture is spray dried.
85. (currently amended) A process as described in claim 36, wherein the coated pesticidal matrix has a particle size of less than about 20  $\mu\text{m}$ .
86. (currently amended) A process as described in claim 58, wherein the coated pesticidal matrix has a particle size of from about 2  $\mu\text{m}$  to 10  $\mu\text{m}$ .
87. (currently amended ) A process as described in claim 36, wherein the coated matrix comprises, on a percentage-weight-basis of the matrix, from about 1% to about 50% of the pesticidal agent, from about 5% to about 50% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 30% of


the ultraviolet protector, from about 0% to about 75% of the activity enhancer, and from about 0% to about 15% of the glidant.

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88. (currently amended) A coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, consisting essentially of on a percentage-weight-basis of the coated matrix, from about 1% to about 50% of said pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% to about 30% of a ultraviolet protector, from about 0% to about 75% of a activity enhancer, and from about 0% to about 15% of a glidant; wherein the polymer contains ester groups and free carboxylic acid groups, is partially solubilized due to the action of a base, wherein the amount of base added is well below the amount required to fully solubilize the copolymer, such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts, and wherein the polymer has a solubilization pH greater than about pH 5.5.

89. (currently amended) A coated pesticidal matrix as described in claim 88, wherein the coated matrix comprises, on a percentage -weight-basis of the coated matrix, from about 5% to about 35% of the pesticidal agent, from about 10% to about 45% of the polymer, from about 0% to about 25% of the plasticizer, from about 0% to about 20% of the ultraviolet protector, from about 0% to about 45% of the

activity enhancer, and from about 0% to about 10% of the glidant.


90. (currently amended) A coated pesticidal matrix as described in claim 88, wherein

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- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer, a methyl methacrylate/methacrylic acid copolymer, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer, and mixtures thereof;
  - (b) the plasticizer is selected from the group consisting of a poly(ethylene glycol), a poly(propylene glycol), a citric acid ester, diethyl phthalate, dibutyl phthalate, castor oil, triacetin, and mixtures thereof;
  - (c) the ultraviolet protector is selected from the group consisting of carbon black, a benzophenone, a dye, titanium dioxide, and mixtures thereof;
  - (d) the activity enhancer is a stilbene compound; and
  - (e) the glidant is selected from the group consisting of talc, magnesium stearate, calcium stearate, calcium sulfate, and mixtures thereof.

91. (currently amended) A coated pesticidal matrix as described in claim 90, wherein


- (a) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of about 1:1, a methyl methacrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of

from about 1:5:2 to about 3:7:3, and mixtures thereof;

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- (b) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1,000 to 10,000; and
  - (c) the stilbene compound is selected from the group consisting of Blacophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof.

- 92. (previously amended) A pesticidal matrix as described in claim 88, wherein the pesticidal agent is selected from the group consisting of an insecticide, an acaricide, a nematocide, a fungicide, a herbicide, and mixtures thereof.
- 93. (previously amended) A pesticidal matrix as described in claim 92, wherein the pesticidal agent is an insecticide selected from the group consisting of a chemical insecticide, a biological insecticide, and mixtures thereof.
- 94. (canceled)
- 95. (currently amended) A coated pesticidal matrix as described in claim 93, wherein the insecticide is a biological insecticide selected from the group consisting of a viral pathogen, a bacterial pathogen, a fungal pathogen, and mixtures thereof.
- 96. (currently amended) A coated pesticidal matrix as described in claim 95, wherein
  - (a) the biological insecticide is selected from the group consisting of
    - (1) *Melolontha melolontha* EPV, *Amsacata moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and

mixtures thereof;

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- (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AaIT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
- (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and mixtures thereof;
- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
- (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof;
- (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
- (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photobacterium luminescens*, *Xenorhabdus nematophilus*, and mixtures thereof; and
- (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and

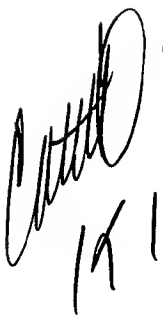
wherein the mixture's pH is less than the polymer's solubilization; and



(b) drying the mixture to produce a coated pesticidal matrix.

97. (currently amended) A coated pesticidal matrix produced by a process as described in claim 36.

98. (currently amended) A process for improving the residual control of a pest comprising applying to the locus of the pest a pesticidally-effective amount of a coated pesticidal matrix as described in claim 97.




99. (currently amended) A process for preparing a coated pesticidal matrix which includes a pesticidal agent which itself is substantially inactivated by ultra-violet radiation, but which when included in said coated matrix retains a significant amount of its original pesticidal activity, which process consists essentially of


(a) preparing an aqueous mixture containing said pesticidal agent, a pH-dependent polymer, a base, optionally a plasticizer, optionally an ultraviolet protector, optionally an activity enhancer, optionally a glidant, and water;

wherein

(A) the polymer is selected from the group consisting of an ethyl acrylate/methacrylic acid copolymer having free carboxylic acid groups and ester groups in a ratio of from about 1:1 to about 1:2, a methacrylic acid/methyl acrylate/methyl methacrylate copolymer having monomers in a ratio of from about 1:5:2 to about 3:7:3, and mixtures thereof;

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- (B) the plasticizer is selected from the group consisting of triethyl citrate and a poly(ethylene glycol) having an average molecular weight of about 1, 000 to 10,000;
- (C) the stilbene compound is selected from the group consisting of Blancophor BBH, Calcofluor White M2R, Phorwite AR, and mixtures thereof;
- (D) the pesticidal agent is a biological insecticide selected from the group consisting of
- (1) *Melolontha melolontha* EPV, *Amsacta moorei* EPB, *Locusta migratoria* EPV, *Melanoplus sanguinipes* EPV, *Schistocerca gregaria* EPV, *Aedes aegypti* EPV, *Chironomus luridus* EPV, and mixtures thereof;
  - (2) *Lymantria dispar* NPV, *Anagrapha falcifera* NPV, *Spodoptera littoralis* NPV, *Mamestra brassicae* NPV, *Choristoneura fumiferana* NPV, *Trichoplusia ni* NPV, *Heliocoverpa zea* NPV, *Rachiplusia ou* NPV, an *Autographa californica* NPV selected from the group consisting of V8vEFTDEL, V8vEGTDEL-AalT, AcMNPV E2, AcMNPV L1, AcMNPV V8 and AcMNPVPx1, and mixtures thereof;
  - (3) *Cydia pomonella* GV, *Pieris brassicae* GV, *Trichoplusia ni* GV, *Artogeia rapae* GV, *Plodia interpunctella* GV, and

mixtures thereof;

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- (4) *Togaviridae*, *Bunyaviridae*, *Flaviviridae*, and mixtures thereof;
  - (5) *Reoviridae*, *Birnaviridae*, and mixtures thereof,
  - (6) *Picornaviridae*, *Tetraviridae*, *Nodaviridae*, and mixtures thereof;
  - (7) *Bacillus thuringiensis*, *Bacillus lentimorbus*, *Bacillus cereus*, *Bacillus popilliae*, *Photorhabdus luminescens*, *Xeorhabdus nematophilus*, and mixtures thereof; and
  - (8) *Beauveria bassiana*, *Entomophthora* spp., *Metarrhizium anisopliae*, and mixtures thereof;

wherein the amount of base added is well below the amount required to fully solubilize the copolymer such that no more than 10% of the free carboxylic acid groups of the copolymer are converted to salts; and wherein the mixture's pH is less than the polymer's solubilization; and

(b) drying the mixture to produce a coated pesticidal matrix.

100. (currently added) A coated pesticidal matrix prepared according to the process of claim 99, comprising, on a percentage-by-weight basis of the coated pesticidal matrix, from about 1% to about 50% of a pesticidal agent, from about 5% to about 50% of a pH-dependent polymer, from about 0% to about 25% of a plasticizer, from about 0% go about 30% of a ultraviolet protector, from about 0%

to about 75% of a activity enhancer, and from about 0% to about 15 % of a  
glidant.